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(56) Documents Cited

GB 2299792 A

GB 0748279 A

FR 002566356 A1

US 4789171 A

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UK CL (Edition S) B7B BTL1 BTL2 BTW BTX2

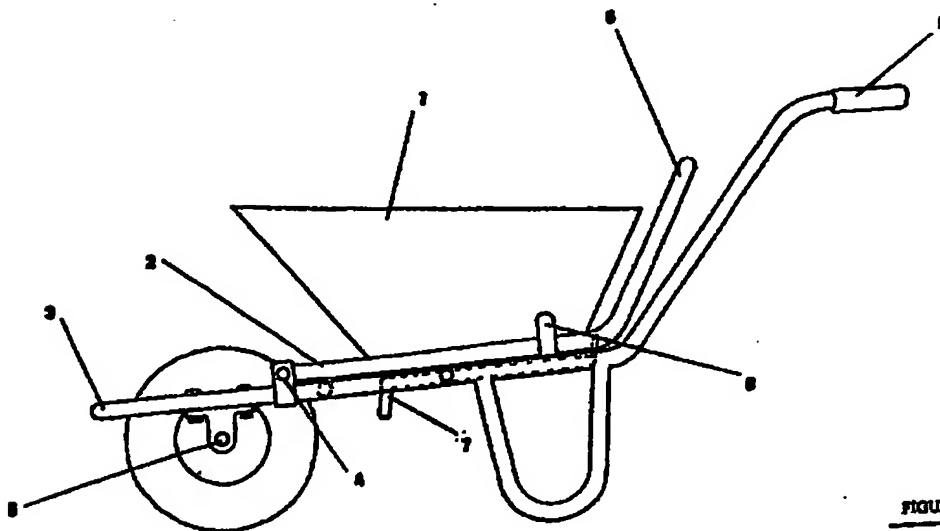
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ONLINE: WPI, EPODOC, JAPIO

(54) Abstract Title

**A wheelbarrow with a tipping body**

(57) The present invention comprises a wheelbarrow having a main frame 3 with at least one wheel at its forward end and handles 9 at the opposite end. The body 1 of the wheelbarrow is pivotally mounted at its forward end to the main frame so that it may be tipped to discharge a load contained in the wheelbarrow body without tipping the main frame. A sub-frame 2 may be pivotally attached to the main frame to the rear of the wheel axle 5 so as to provide a tipping handle 6 attached to the forward end of the wheelbarrow body and extending to its rear where it may form a U-shaped handle (figure 3). A stabilising bar 7 may be located beneath the sub-frame 2 which pivots so as to contact the ground when the sub-frame is raised so as to provide a support for the wheelbarrow body when in its discharge position (figure 2).



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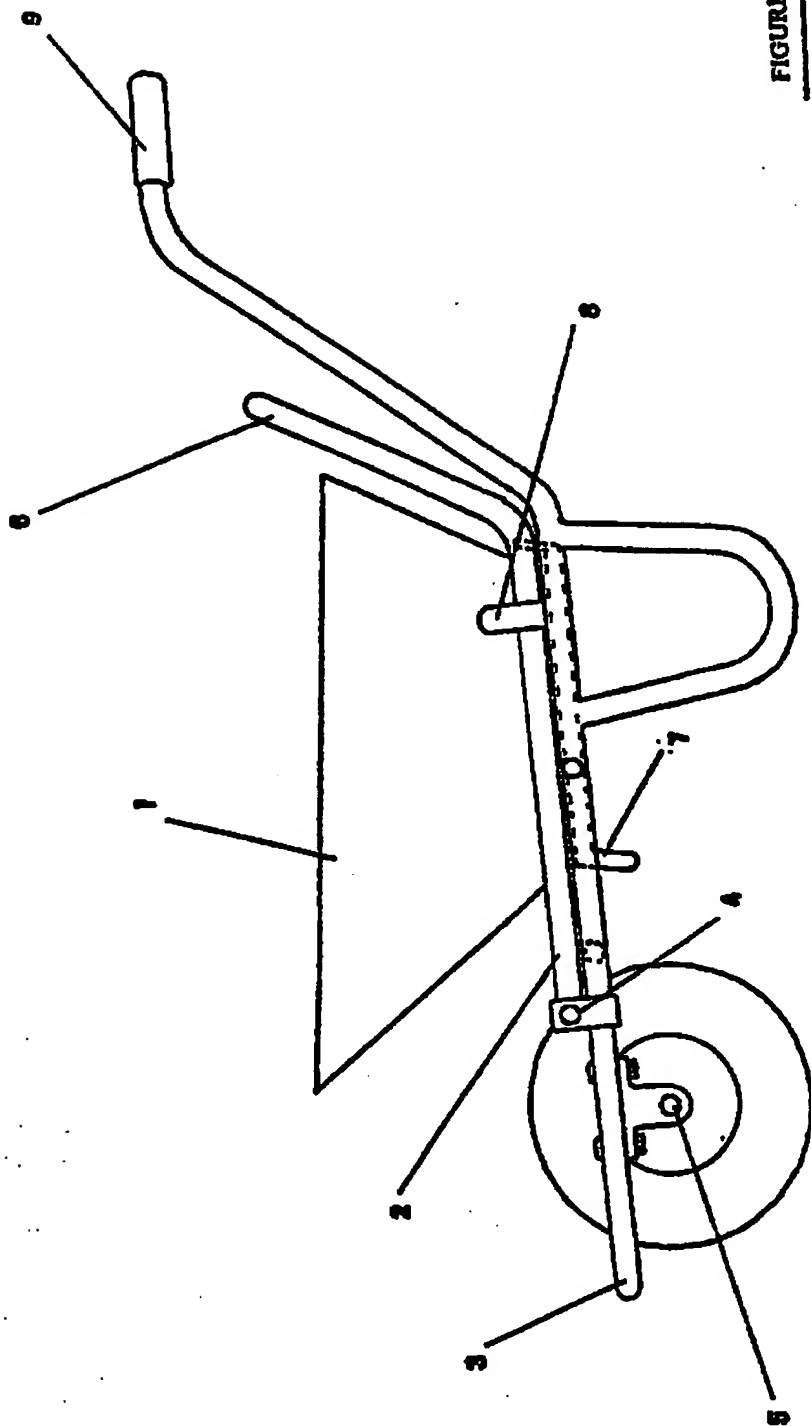
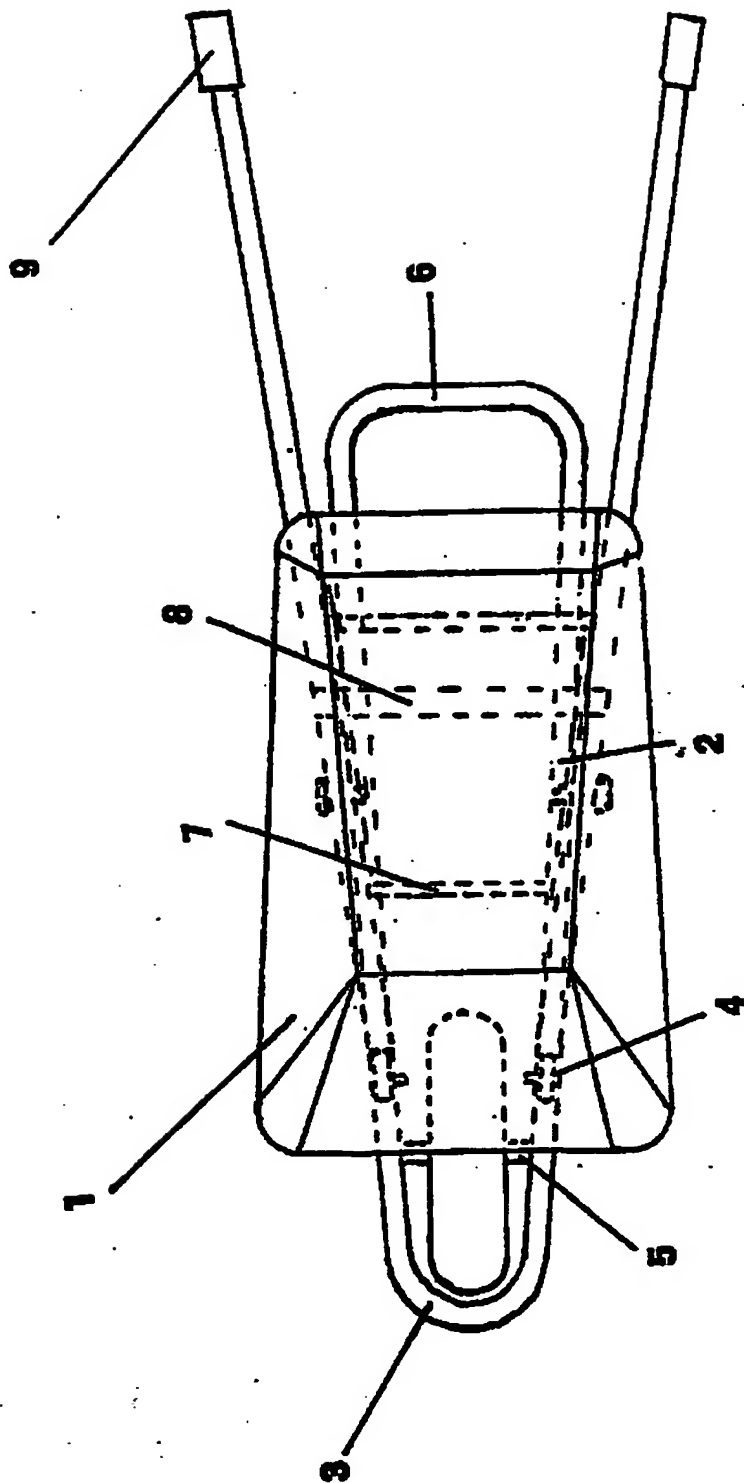


FIGURE 1

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**FIGURE 3**

## **A WHEELED BARROW**

This invention relates to an improved wheelbarrow or wheeled barrow.

The traditional wheelbarrow is a common implement, which comprises a hopper mounted in a frame, having a road wheel at one end and terminating in a pair of shafts at the opposite end. It is used in the main for gardening, farming, in the construction industry, etc. A common problem encountered by the operator of a traditional wheelbarrow is that of the difficulty encountered in the operation to offload its contents in the exact location where the operator desires to tip the load. This is mainly due to the weight of the contents, wet or dry, shifting during the tipping motion when the whole wheelbarrow is lifted by its handles a full 90 degrees, whilst at the same time balancing the whole weight on the front part of the tubular sub-frame. It is also extremely difficult to balance a traditional wheelbarrow whilst changing the position of the hands whilst raising the hopper the full 90 degrees.

According to the present invention there is provided a wheelbarrow or wheeled barrow, herein after referred to as a wheelbarrow, comprising a main frame having at least one wheel at a front end thereof and at least one handle at the opposite end or rear end thereof; and a hopper for containing material to be transported pivotally mounted at its front end to the said main frame and having a tipping handle or tipping handles at the rear end thereof and said handle or handles being attached to the front end of the said hopper for pivoting the hopper towards a vertical orientation in order to tip the contents thereof over the front end portion of the said main frame.

To overcome the difficulty of changing the position of the hands from the palms downward grip to palms upward grip for tipping, there is preferably provided a "tipping handle" attached to the front of the hopper and extending to the rear thereof where it is formed into a U-shape. This facility allows the hopper to be raised by the operator by providing a transverse gripping

portion and at the same time the operator controls his grip by rotating his hand around the "tipping handle" thus preventing injuries and back strain. There is also preferably provided a preferably pivotally retractable foot or "stabilising bar" which by being retractable eliminates the risk of the operator treading on it whilst pushing the wheelbarrow. The present invention is a very user-friendly wheelbarrow operable by all adult age groups.

## Claims

1. A wheeled barrow comprising a main frame having at least one wheel at a front end thereof and at least one handle at the opposite or rear end thereof and a hopper for containing material to be transported, mounted on the main frame; wherein the front end of the hopper is pivotally mounted on the main frame for discharging the said transportable material.
2. A wheeled barrow as claimed in claim 1 and wherein further handles; or a further or tipping handle or handles are or is attached to the said front end of the hopper and extends or extend respectively to the rear end thereof.
3. A wheeled barrow as claimed in claim 2 and wherein the said further or tipping handle is U-shaped to provide a transverse gripping portion with the free ends of the said U-shaped further or tipping handle attached to the said hopper.
4. A wheeled barrow as claimed in any preceding claim wherein a retractable foot or stabilising bar is provided for maintaining the said hopper in its discharging orientation.
5. A wheeled barrow as claimed in claim 4 wherein the said retractable foot or stabilising bar is pivotally retractable.
6. A wheeled barrow as claimed in claim 5 wherein the said retractable foot or stabilising bar is arranged to pivot about a transverse axis.
7. A wheeled barrow as claimed in claim 1 and substantially as herein described and as illustrated in the accompanying drawings.

There is in existence a design lodged in the Australian Patent Office, Document No. AU-A-37810/89, International Patent Classification B62B001/24. In this invention the inventor has made the error in his design of using the wheelbarrow axle as a pivoting point for tipping of the hopper. This means that the operator has too far to stretch when tipping the contents of the wheelbarrow. Also should the pivoting assembly jam on the wheel axle, the sub-frame could lift, causing injury to the operator. A further fault is that the fixed stabilising bar could cause injury to the operator should s/he accidentally tread on it when striding out and likewise there is the possibility of the fixed stabilising bar catching obstacles protruding from the ground.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:

- Figure 1 - shows a side view
- Figure 2- shows a perspective view of the wheelbarrow in use from horizontal to vertical
- Figure 3- a plan view of the wheelbarrow

The wheelbarrow comprises a hopper (1) attached to a sub-frame (2), the said sub-frame being pivotally attached to a main frame (3) at a point rearward of the barrow wheel axle (5), with a pair of shafts (9) at the rear for steering.

Referring to figure 1, the sub-frame (2) is linked at the rear of the barrow wheel axle (5) by means of two fabricated hinges (4). On the rear of the sub-frame (2) there is provided a handle (6) for the purpose of lifting the hopper (1) to offload the contents. When the hopper (1) is raised from the main frame (3) a stabilising foot-bar (7) simultaneously drops to the ground to allow the operator more stability when the wheelbarrow is in the offloading position. When the hopper (1) is returned to loading position, sitting between the relocating lugs (8) the foot-bar (7) returns the same time to its original position under the sub-frame (2).



Application No: GB 0112284.5  
Claims searched: 1 to 6

Examiner: Peter Gardiner  
Date of search: 25 September 2001

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): B7B: BTL1, BTL2, BTW, BTX2

Int Cl (Ed.7): B62B: 1/18, 1/24

Other: Online: WPI, EPODOC, JAPIO

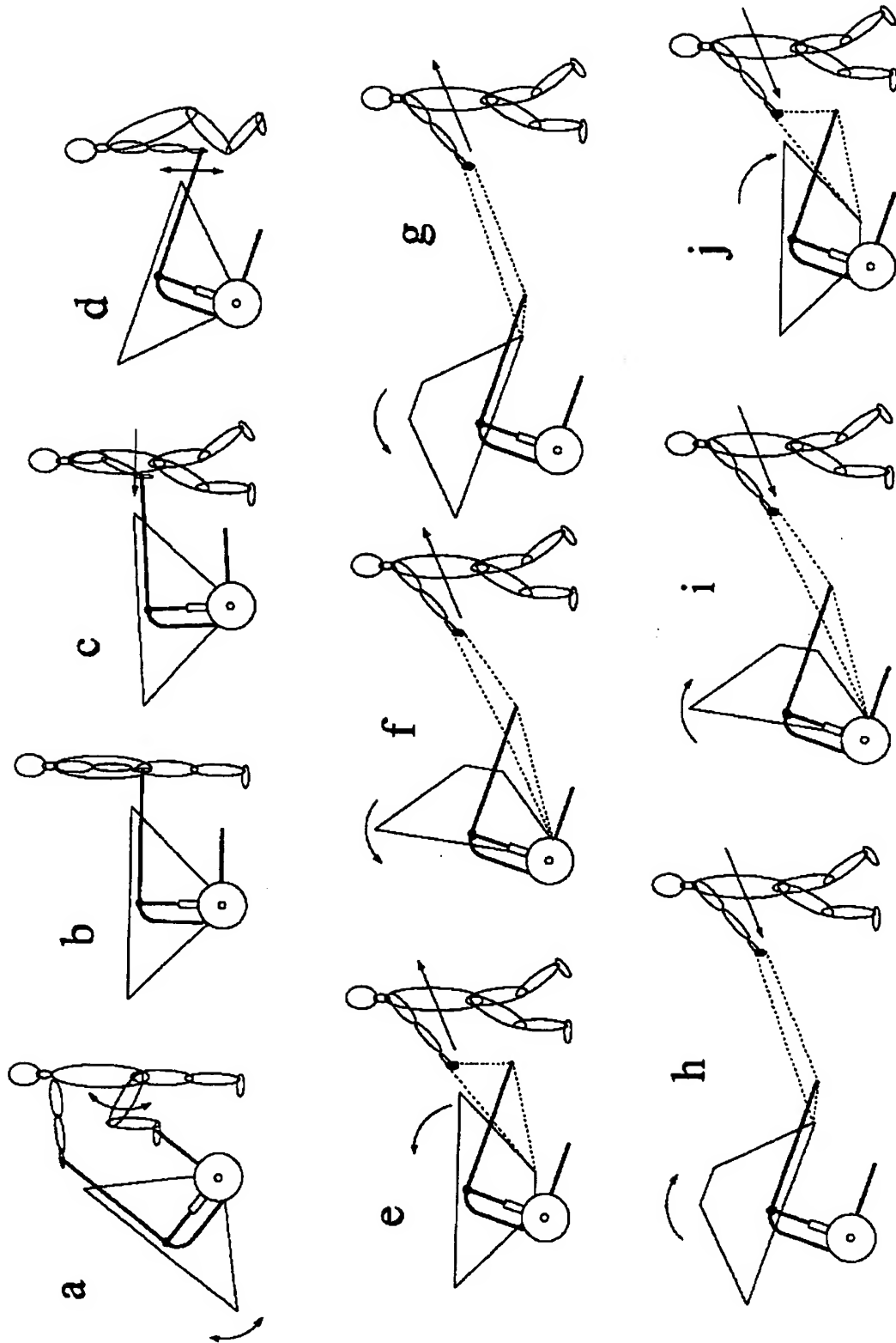
**Documents considered to be relevant:**

Category	Identity of document and relevant passage		Relevant to claims
X,Y	GB 2299792 A	RODDOM & PAYNE (see figure 3 in particular, which shows front pivot point Z and handles 3)	X: 1,2 Y: 3
Y	GB 748279	DYETT (see figures 1 and 2, in particular U-shaped handle 3)	3
X	FR 2566356 A1	ZAMMOUT (see tipping wheelbarrow 6, in particular stabilising bar 15)	1,4,5,6
X	US 4789171	PORTER (see figure 2, in particular forward pivot point 36)	1
X	US 4270786	MATTOX (see figure 1, in particular forward pivot point 13)	1

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.



Figure 9



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Figure 10

